

REMARKS

Status of Claims:

Claims 4 and 8 are canceled. Claims 1 and 5 are amended without prejudice or disclaimer. The claim amendments are supported by the original disclosure, for example, with respect to the third embodiment and the text corresponding thereto (Specification; paragraphs 165-174; Fig. 11). No new matter has been added to the application. Re-examination and reconsideration of the application, as amended, are requested

Claim Rejections:

Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (AAPA) in view of Cha et al. (U.S. Patent No. 6,486,933 B1) (hereinafter Cha), Choi et al. (U.S. Patent No. 6,429,918 B1) (hereinafter Choi), and Shimada et al. (U.S. Patent No. 5,870,157) (hereinafter Shimada).

Claims 2-4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Cha, Choi, and Shimada, in view of Lin et al. (U.S. Patent No. 6,757,031 B2) (hereinafter Lin).

Claims 4 and 8 are cancelled. With respect to claims 1-3 and 5-7, as amended, the rejections are respectfully traversed.

Independent claim 1, as amended, recites an active matrix type liquid crystal display device comprising:

“a pair of substrates;

a liquid crystal sealed between said pair of substrates;

a plurality of data lines and a plurality of scanning lines which are arranged so as to intersect each other on one surface of a first of said pair of substrates;

a switching element having an electric current path, one end of which is connected to a corresponding one of said data lines, and having a control terminal which is connected to a corresponding one of said scanning lines;

a pixel electrode which is provided above said data lines via an insulation film, and is connected to the other end of the electric current path of said switching element;

a common electrode which opposes said data lines via said insulation film, said common electrode having slits in portions overlapping said data lines;

a black matrix which is arranged on a second of said pair of substrates in a predetermined pattern, said black matrix having a portion covered by a flattening film; and

a first conductive film provided on said flattening film so as to oppose said data lines via said slits, said first conductive film being set to a common electric potential with said common electrode;

wherein said first conductive film overlaps said portions of said common electrode where said slits are formed;

wherein an electric field can be generated between said common electrode and said pixel electrode;

wherein at least some portions of said common electrode that are adjacent to said slits overlap at least some portions of said data lines; and

wherein said portion of said black matrix is located opposite a data line of said plurality of data lines and has a width that is less than a width of said data line and that is at least slightly larger than a width of a slit in a portion of said common electrode that is overlapping said data line; and

wherein said first conductive film has a width that is at least larger than a width of said portion of said black matrix." (Emphasis Added).

An active matrix type liquid crystal display device including the above-quoted features has at least the advantages that: (i) a plurality of data lines and a plurality of scanning lines are arranged so as to intersect each other on one surface of a first of a pair of substrates; (ii) a pixel electrode is provided above the data lines via an insulation film; (iii) a common

electrode opposes the data lines via the insulation film and has slits in portions overlapping the data lines; (iv) a black matrix is arranged on a second of the pair of substrates in a predetermined pattern; (v) at least some portions of the common electrode that are adjacent to the slits overlap at least some portions of the data lines; (vi) a portion of the black matrix that is located opposite a data line of the plurality of data lines has a width that is less than a width of the data line and that is at least slightly larger than a width of a slit in a portion of the common electrode that is overlapping the data line; and (vii) a first conductive film opposing said data lines via said slits and **that is at least larger than a width of said portion of said black matrix**. (Specification; paragraph [0174]).

By making a portion of a black matrix that is located opposite a data line of a plurality of data lines have a **width** that is **less than a width of the first conductive film**, the width of the first conductive film can be appropriately set so that an optimum shield effect against a leak electric field can be obtained with no consideration for the width of said portion of the black matrix. As a result, reduction in the aperture ratio can be **prevented**. (Specification; paragraphs [0174]).

Neither AAPA, Cha, Choi, nor Shimada, alone or in combination, disclose or suggest an active matrix type liquid crystal display device including the above-quoted features with a first conductive film opposing a data line having a **width that is at least larger than a width of said portion of said black matrix**.

The Examiner recognizes that, “AAPA **fails to disclose** a first conductive film provided on the flattening film so as to oppose the data lines via the slits, the first conductive film being set to a common electric potential with the common electrode, wherein the first conductive film overlaps the portions of the common electrode where the slits are formed, wherein an electric field can be generated between the common electrode and the pixel electrode, wherein the first conductive film is formed in a pattern that is the same as the black matrix.” (Office Action; page 3) (Emphasis Added).

The Examiner then points to Choi as disclosing those features.

However, in the device of Choi, the first conductive film (or “shielding electrode”) 37 has a width that is **equal to or narrower** than that of the black matrix 33. (col. 4 line 67 – col. 5 line 2; FIG. 3). As such, Choi cannot teach or disclose using a first conductive film

with a width that is at least larger than a width of a portion of a black matrix because in reality Choi specifically teaches the opposite.

Moreover, the teachings of Shimada and Choi cannot both be applied to AAPA, because they have opposite teachings. Shimada teaches that a black matrix 16 has a width W2 that is less than a width W1a of the line 10 (Shimada; FIGs. 4 and 5, references 10, 16, W1a, and W2), while Choi teaches that a “shielding electrode” 37 has a width that is equal to or narrower than that of a black matrix 33 and wider than that of the data bus line 13 (col. 4 line 67 – col. 5 line 2; FIG. 3). As such, it is impossible for Choi and Shimada to be compatible with one another since attempting to combine the two references would destroy the functionality and purpose of both references.

In addition, the Examiner argues that the teachings of Cha and Shimada are compatible because the width of the black matrix can be reduced so that the width of the black matrix is slightly larger than the width of the slit, but at the same time, less than the width of the data line. (Office Action; page 6). However, Choi specifically teaches a “shielding electrode” 37 having a width that is equal to or narrower than that of a black matrix 33 and wider than that of the data bus line 13 (col. 4 line 67 – col. 5 line 2; FIG. 3). Thus, it impossible to apply the dimensions taught in Choi to the teachings of Cha and Shimada. As such, Choi teaches the opposite of that taught by Shimada and Cha.

Therefore, independent claim 1, as amended, is neither disclosed nor suggested by AAPA, Cha, Choi, or Shimada, alone or in combination and, thus, is believed to be allowable. The Patent Office has not made out a *prima facie* case of obviousness under 35 U.S.C. 103.

Independent claim 5, as amended, recites a method of manufacturing an active matrix type liquid crystal display device with features similar to features of an active matrix type liquid crystal display device of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

The dependent claims are deemed allowable for at least the same reasons indicated above with regard to the independent claims from which they depend. It is noted that, with regard to dependent claims 2, 3, and 7 Lin does not cure the deficiencies with respect to the teachings of AAPA, Cha, Choi, and Shimada discussed above.

Conclusion:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

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